DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

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MEMORANDUM FOR SEE DISTRIBUTION

FROM: HQ AETC/CEC
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SUBJECT: AETC Implementing Guidance to ETL 02-12

1. The attached Fact Sheet provides AETC's implementing guidance for ETL 02-12. It highlights recent key changes in MILCON responsibilities for communications design, and identifies lessons derived from a MILCON IPT at Tyndall. The shared objective is to provide all new AETC MILCON facilities with communications systems fully ready for use upon beneficial occupancy.

2. The Fact Sheet is a joint product of HQ AETC/CEC and HQ AETC/SCX. It is being disseminated to our supporting Corps of Engineers and Naval Facilities Command design and construction agents for their action. Please note that a Registered Communications Distribution Design (RCDD) engineer is required to be involved in the design of MILCON projects to ensure interior and exterior communications wiring conforms to the latest standards.

3. Installation BCE and Communication Squadrons should carefully refer to this guidance to help identify all base communications requirements prior to start of design. A correctly design facility has the potential of saving the Air Force thousands of dollars in costly contract modifications.

4. This is a joint HQ AETC/CEC/SCX policy letter. Points of contact are Mr. Fred Waterman, HQ AETC/CECF, at DSN 487-2976 and Mr. Dennis Hollis, HQ AETC/SCXX, at DSN 487-6954.

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Attachments:
1. Distribution List
2. Fact Sheet

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HQ AETC/CEC/SCX
FACT SHEET

PRE-WIRING FOR MILCON

PURPOSE: Provide background and current status of pre-wiring for MILCON. Key reference is ETL 02-12, 27 Jun 02, Communications and Information Systems Criteria for AF Facilities.

BACKGROUND DISCUSSION

Commencing with FY04 MILCON, communications cabling costs are included and funded in the MILCON project itself. This is not limited to premise wiring, but also includes all exterior wiring necessary to provide dial tone (telephone) and network connectivity (LAN services) to the nearest service connectivity point on base.

Reference for this is ETL 02-12, paragraph 3.1, which applies to projects awarded after 1 Oct 03 (FY 04), regardless of program year. This ETL is published by AFCESA and can be obtained on the AFCESA or Construction Criteria Base (CCB) websites.

MILCON Funded Infrastructure:

Reference ETL 02-12, paragraph 1.1.1, MILCON scopes now include:

- Customer jacks (telephone, fax, LAN, pay phone, CATV, etc.
- All wiring, cabling, fiber optic cables (FOC), conduits, ducts, manholes, and pathways from customer jacks to the point where the new MILCON facility will receive network services (to acquire dial tone and LAN connectivity). This could be as close as a local manhole for telephone or as far as the local telephone switch-the base CS will make this determination. In obtaining LAN connectivity, this is typically the closest base Information Transfer Node (ITN).
- Termination devices (cross-connects, patch panels, distribution frames, etc).
- Infrastructure provisions only (e.g., floor space, electrical/mechanical utilities, ducts, and fixtures) for special-purpose equipment, such as secure switches, radio transmitters, and audio-visual equipment.
- Communications and information infrastructure requirements other than equipment when validated in advance and supported by AETC for inclusion in the DD Form 1391.

Collaterally Funded (O&M) Requirements:

Reference ETL 02-12, paragraph 1.1.2, primary items supporting MCP to be funded by the User or through communications channels in support of communication and information systems include:

- The network switching equipment itself to include any routers.
- Any end instruments (telephones, fax machines, data terminals, computers, printers, etc.)
- Special Purpose equipment (secure switches, radio transmitters, and audio visual equipment) and installation of this type equipment.
- UPS or installation of UPS.

HQ AETC/CEC and AETC/SCX will continue to work with base Users and HQ AETC/CER to monitor the O&M budgeting for collateral communications equipment following the same process we now use with O&M funded furnishings. HQ AETC/CERF maintains a consolidated spreadsheet of facility O&M funded requirements for MILCON projects for this purpose.

PROCESS

Planning charettes need to specifically address project communications requirements to ensure our facilities communications infrastructure systems provide Users with reliable, state-of-art communications connectivity. Cite ETL 02-12 as a technical reference. Some base communications squadrons (e.g., 71 CS) have a supplement to the ETL with more specific guidance. The critical and rapidly evolving nature of communications systems dictate that designs consider both present and future planned requirements by adhering to flexible system layouts. Relevant funding guidance for pre-wired work stations, systems furniture and communications pre-wiring is paragraph 9.8 of AFI 65-601V1, 24 Dec 02.

LESSONS LEARNED

Following "lessons learned" resulted from a recent process improvement review of facility communications deficiencies to improve the overall MILCON design and construction process.

- Require A-Es have a Registered Communications Distribution Design (RCDD) engineer certify design documents and assist with inspections during critical periods of construction
- Enforce contract specifications requiring a registered Information Transport System (ITS) installer perform communications installations
- Provide communications rooms with rigid ceilings and not suspended grid ceilings
- Connect communication rooms with premise wiring and ducts/conduit between each room
- Design communications equipment rooms of adequate size and in central locations
- Install shielded network cable in secure areas
- Ensure premise or infrastructure wiring installed IAW project specifications and industry standards
- Conduct coordination and planning meetings between contractor, COE, communications squadron and base civil engineers prior to start of new MILCON project
- Provide correct voltage and design for facility security systems
- Seal wall penetrations
- Maintain proper red - black separations
- Consider adding a communications preconstruction meeting to include RCDD, SC, CE, Security Representatives, and facility occupants to explain and agree on both premise and outside communications wiring
  Submit copies of communications infrastructure final inspection test results to the local communications squadron
- Provide communications squadron with as built drawings of communications outside and premise wiring
- Use fiber optic cable for data systems connectivity in secure areas

SUMMARY

Because of rapidly developing technology and new MILCON policy, full understanding of facility communications requirements is sometimes weak. Designers and constructors must realize how critical it is to design and install communications wiring (both premise and outside) to standard. Technical specifications and standards are readily available, but enforcement of those specifications and standards needs our careful and continual attention.